State of Vermont
Department of Health
Actuarial Study of the Needed Bed Capacity for Adult Mental Health Inpatient Services

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I. EXECUTIVE SUMMARY

The Vermont Department of Health (VDH) contracted with Milliman, Inc. (Milliman) and The Management Group (TMG) to conduct an actuarial study of the needed bed capacity for adult mental health inpatient services as part of the Vermont Futures Plan.

The Milliman/TMG team has combined actuarial expertise and extensive programmatic and administrative knowledge of recovery-based mental health programs and systems of care. Our analysis is not just quantitative in nature, but also takes into account the operational realities of administering community-based mental health care on a day-to-day basis.

Milliman is the lead consultant and is responsible for the analysis presented in this report. TMG's primary contribution within this partnership was to assess the likely impact that the Vermont Futures Plan will have on the long-run capacity needs for adult mental health inpatient services. All references to the Vermont State Hospital (VSH) in this report refer to either the existing hospital or its successor facility (ies).

Actuarial Analysis

This report is an actuarial analysis. Actuarial analysis deals with uncertainty and risk – which is the possibility that an undesirable event will occur. The analysis evaluates the potential for undesirable events and develops ways of mitigating the effect of these events. In many cases these analyses involve insurance – which is a way to fund the cost of these events. "Undesirable" can vary in meaning – some risks are clearly undesirable (death, an automobile accident, a fire) while for others it is the uncertainty of the cost which is "undesirable", but the event may not be. Much of health related analysis involves events that are desirable from the standpoint of individuals receiving needed care, but the funding of these events can be problematic.

Actuaries develop scenarios of future events and use those scenarios to project future cost and utilization. For health related projects these scenarios are usually based on:

- Analysis of historical experience for the given population.
- Analysis of changes in the environment from the historical period to the projection period. These changes can include: demographic, benefit coverage, provider fees,

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resource availability, medical management, and general inflation, among other factors.

- Comparisons of experience in similar populations/products – to the extent they are available.

Some of these changes can be quantified more easily than others:

- Relative use rates by age/gender are usually well defined so an assumed change in demographics can be fairly easily calculated.
- Provider fee schedules, if known, can be analyzed to value the changes.
- Many times the fee schedules are not final when the projection is developed so assumptions must be used.
- Trends (changes in utilization and cost per capita) are especially important and hard to analyze. Health care trends usually do not follow specific patterns that allow them to be accurately predicted by regression or similar models.
- Changes in many items such as: health care resources, the effect of medical management, and the effect of new treatments generally require a significant amount of judgment, even if some data exists.

The use of health care services varies significantly across the United States, sometimes even within relatively short distances. The recently published report by the Dartmouth Atlas of Health Care describing variation in how hospitals care for chronically ill elderly patients is one example. The use of mental health services shows even greater variation than other services. While the use of most health care services is influenced by whether the consumer has third party coverage (private insurance, Medicare, Medicaid, etc.) the greatest variation is seen in the use of mental health services. Standard inpatient mental health treatment programs have been designed around the common lengths of coverage by private health insurance (e.g., 28-day treatment programs coinciding with 30-day inpatient mental health benefits).

A true "insurable risk" is an event that is outside of the control of the insured and whose occurrence is viewed very negatively by the insured (e.g. life insurance). By this definition, much of health care services are not really insurable risks. However, mental health coverage is among the "least insurable", due to its utilization being more dependant on a perceived ability to pay than most other types of health care services. Insurance companies have also been concerned with coverage of mental health services due to the perceived subjectivity of the need for care.

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VSH is concerned with involuntary admissions, which eliminates some of the subjectivity in the process. However, the availability of various treatment options has an impact on whether inpatient mental health services are used. Just as the Futures Plan increases community resources to reduce the need for inpatient resources, the same issue is observed in other locations – if there are no available community resources, then inpatient resources are used, if available. Due to the apparent subjectivity of the need for mental health treatment, the presence or lack of various treatment alternatives affects whether treatment is received and in what location. The scope of treatment can range from:

- Outpatient professional, where the type of professional can include M.S., Ph.D., or M.D.
- Community non-residential programs.
- Community residential programs that divert inpatient use to less intensive settings.
- Inpatient – the range of care spans from general psychiatric to Specialized Inpatient to Intensive Care (defined below).

Thus while any actuarial projection is dependent on the underlying assumptions used to develop the projection, projections involving the use of mental health services have a wider range of variability.

Futures Plan Background

The Futures Plan was developed by the Vermont Division of Mental Health and an advisory group of key stakeholders to plan for the replacement of the services currently provided by VSH within the context of long-range planning for a comprehensive continuum of care for mental health services.

The Futures Plan proposes the closing of VSH and the distribution of VSH's current 54-bed capacity across programs offering different levels of care. The plan also calls for increased spending on housing, transportation and legal services, enhanced peer resources and support, and a care management program that will ensure Vermonters have access to the appropriate level of treatment within a participating network of inpatient, crisis stabilization, residential, and outpatient services. The State has targeted 32 inpatient beds as its overall goal once the Futures Plan is fully implemented.

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The proposed breakdown of the new and relocated beds is summarized below:

- **Secure residential (6 beds, relocated from VSH):** Six beds would be assigned to a secure residential program for individuals who have been a danger to society and have been assigned to the custody of the commissioner, but who are not currently dangerous or in need of hospital or sub-acute levels of care.

- **Sub-acute care (16 beds, relocated from VSH):** Sixteen beds would be assigned to one or more sub-acute programs for individuals who need intensive rehabilitation, but do not need to be hospitalized.

- **Inpatient beds, including psychiatric intensive care units (ICUs) and specialized inpatient units (SIP units) (32 beds, relocated from VSH):** The remaining 32 beds relocated from VSH would be assigned to programs offering inpatient hospital care. Twelve of these 32 beds would be assigned to ICUs. Twenty of these beds would be assigned to SIP units.

- **Diversion (10 new beds):** Ten new diversion beds are planned to augment the 19 existing diversion beds in programs run by Designated Agencies around the state. The diversion beds would be available for the following types of care:
  - Triage and observation care (24 hours)
  - Crisis stabilization care (24 – 48 hours)
  - Hospital alternative care (3 – 7 days)
  - Hospital step-down care (24 – 72 hours)

VDH envisions the Futures Plan as an opportunity to establish a state-of-the-art intensive care program, integrated into a mental health system that links prevention, early intervention, treatment, and ongoing support programs, and that helps Vermonters with mental illness and emotional disturbances achieve full recovery.

Much more detail is available in the full Vermont State Hospital Futures Plan, available from VDH.

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Conclusion – Needed Adult Mental Health Inpatient Bed Capacity Depends on Implementation of Vermont Futures Plan

Our report considers three scenarios for the implementation of the Futures Plan:

- **Scenario 1: Status quo remains** – Under Scenario 1, none of the changes proposed in the Futures Plan would be implemented. The VSH (or a successor facility) would operate as it currently does. The proposed additional community resources would not be created. The only changes to the need for adult mental health inpatient services are driven by demographic shifts and normal utilization trends. Scenario 1, while not very likely, is still very useful as a baseline scenario to determine what the needed bed capacity would be without the changes to the delivery system proposed in the Futures Plan. Scenario 1 projects the needed bed capacity at VSH at 65 beds in 2016.

- **Scenario 2: Partial implementation** – Under Scenario 2, construction of the new inpatient facility occurs but the planned community non-inpatient alternatives are not fully implemented. We assume that one-half of the planned additional community resources are implemented. Scenario 2 is a mid-point between Scenario 1 and Scenario 3. Scenario 2 projects the needed bed capacity at VSH at 53 beds in 2016.

- **Scenario 3: Full implementation** – All aspects of the Futures Plan are fully funded, fully staffed with qualified providers, and completed according to schedule. Scenario 3 is the best case scenario and shows what is possible under the best circumstances. Scenario 3 projects the needed bed capacity at VSH at 41 beds in 2016.

Section VI discusses the assumptions for each scenario.

Table I-1 summarizes the results of each scenario by the three levels of care envisioned in the Futures Plan: Intensive Care Unit (ICU), Specialized Inpatient Unit (SIP Unit), and General Psychiatric Unit (General). The Futures Plan envisions that the ICU and SIP Unit levels of care will be provided at the new inpatient facility (or facilities) that will replace VSH.

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Table I-1
State of Vermont, Department of Health
Projection of 2016 Adult Mental Health Inpatient Needed Bed Capacity by Level of Care
Range of Scenarios

Level of Care	Scenario 1 Status Quo	Scenario 2 Partial Implementation	Scenario 3 Full Implementation
ICU	7.1	7.1	7.1
SIP Unit	57.2	45.3	33.4
General	120.0	117.8	115.7

An important assumption in our projections is the effect of new consumers wishing to use newly created community resources (what we call "induced utilization" in this report). We assumed that induced utilization will use 10% to 20% of the capacity of the new community resources, decreasing the number of current VSH patients who could be shifted to these new resources. This assumption is discussed in detail in Section VI. There is substantial research showing a correlation between the supply of hospital beds and the rate of hospitalization for conditions that do not require surgery. We have also included 5 beds for the difference between the average daily census and that needed for the capacity to be adequate 90% of the time.

These Scenarios are not predictions of what will happen in the future, but rather scenarios based on selected assumptions that we believe are appropriate. It is difficult to measure the level of pressure on community services and how the use of those services will increase if additional resources are made available. Thus it is important to monitor the progress of creation of new resources and the community response to their presence, so that adjustments can be made throughout the process.

Important Limitations and Caveats

Differences between our projections of inpatient capacity needs and actual needs will depend on the extent to which future experience conforms to the assumptions made in our calculations. It is certain that actual experience will not conform exactly to the assumptions used.

Our analysis is based on data we received from VDH and other public data and research as described in our report. We did not audit the provided data, but made efforts to assess its

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reasonability. If the data includes errors, our analysis and conclusions may need to be modified.

Our report is intended for the internal use of VDH to determine inpatient mental health needs from 2006 - 2016. It may not be appropriate for other purposes. Milliman does not intend to benefit and assumes no duty or liability to other parties who receive this work. It should only be reviewed in its entirety. This material assumes that the reader is familiar with the State of Vermont's mental health system, the Vermont Futures Plan, and actuarial principles.

The results of this report are technical in nature and are dependent upon specific assumptions and methods. No party should rely on these results without a thorough understanding of those assumptions and methods. Such an understanding may require consultation with qualified professionals.

Section II of this report evaluates the historical use of adult mental health inpatient services in Vermont. Section III provides a detailed examination of the mental health service usage of the corrections population. Section IV compares inpatient mental health utilization nationally to Vermont utilization. Section V discusses the Focus Group comments regarding the Futures Plan. Section VI of this report discusses expected impact of the Futures Plan and other factors on the use of adult mental health inpatient services. Section VII presents our estimated adult mental health inpatient bed capacity by level of care for 2016.

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II. HISTORICAL USE OF MENTAL HEALTH SERVICES IN VERMONT

This section of our report presents an evaluation of the historical use of inpatient mental health services in Vermont. Our initial step in estimating future inpatient mental health needs in Vermont was to understand what services were available and how services have been utilized in past.

Summary of Current Average Daily Census by Level of Care

We estimated the following average daily census by level of care as the starting point for our projection of future adult mental health inpatient services, shown in Table II-1:

Table II-1
State of Vermont, Department of Health
Summary of Current Estimated Average Daily Census by Level of Care
Adult Mental Health Inpatient Services

Hospital	ICU*	SIP Unit**	General	Total
Vermont State Hospital	4.6	42.2	4.6	51.4
Other Hospitals	1.0	3.5	90.6	95.1
Total	5.6	45.7	95.2	146.5

* Intensive Care Unit
** Specialized Inpatient Unit

The average daily census by level of care is a product of the average 2003 – 2005 total daily census for adult mental health inpatient services (Table II-2) multiplied by the percentage of inpatient days at each level of care by facility (Table II-3).

Methodology

We evaluated the following data sources to determine the inpatient mental health use in Vermont's adult population over the past five years:

- Vermont State Hospital data from 2000 – 2005.
- Vermont public use inpatient discharge data sets from 2000 – 2004.

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- New Hampshire public use inpatient discharge data sets from 2000 – 2004.
  - We limited our analysis to Vermont residents seeking care in New Hampshire hospitals.
- Summary utilization information for the Brattleboro Retreat for 2000 - 2003, as presented in the VDH publication titled "Inpatient Behavioral Health Care Services Provided to Vermont Residents During 1990 – 2003" published in August 2005.

The inpatient mental health use of the Vermont Corrections population is included in the data sources listed above. The Corrections population is discussed at length in Section III of this report.

We compared and validated our results using summary data compiled by VDH, including:

- The VDH publication titled "Inpatient Behavioral Health Care Services Provided to Vermont Residents During 1990 – 2003" published in August 2005, and
- The VDH Fiscal Year 2005 Statistical Report published on October 30, 2005.

We developed the following summaries to assist us in our understanding of the current use of and to provide a basis for our projections of the future use of adult mental health inpatient services:

- The average daily census by year and hospital for adult mental health inpatient services.
- Allocation of the average daily census by estimated level of care (intensive care unit, specialized care unit, general care).
- The average length of stay for adult mental health inpatient services by hospital.
- The distribution of admissions to VSH by length of stay.
- The payer mix of each hospital for adult mental health inpatient services.

Average Daily Census

We summarized the data to determine the number of patient days provided in each facility. We divided the number of patient days per year by the number of days in the year to determine an average daily census. Table II-2 below summarizes the average daily census in each facility for adult mental health inpatient services.

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Table II-2
State of Vermont, Department of Health
Summary of Average Daily Census by Hospital and Year
Adult Mental Health Inpatient Services

Hospital	2000	2001	2002	2003	2004	2005	Avg. 2003 to 2005	Current Licensed Capacity
Vermont Hospitals								
Vermont State Hospital[1]	50.2	53.2	55.9	51.3	51.7	51.1	**51.4**	**54**
Brattleboro Retreat	23.4	26.0	22.8	24.0	N/A	N/A	**24.0**	**52**
Central Vermont Hospital	8.0	8.6	10.7	9.6	10.2	N/A	**9.9**	**14**
Fletcher Allen Hlth Care	19.9	20.1	18.9	22.2	20.5	N/A	**21.4**	**28**
Rutland Region. Med Ctr	7.2	9.5	9.6	8.4	7.3	N/A	**7.9**	**19**
Springfield Hospital	10.0	11.0	12.0	12.8	12.8	N/A	**12.8**	**10[2]**
Veterans Administration	7.6	8.6	8.0	9.4	8.4	N/A	**8.9**	**10**
Other Vermont Hospitals	1.9	0.9	1.1	0.9	0.7	N/A	**0.9**	**N/A**
New Hampshire Hospitals (VT Residents Only)								
M.H. Psychiatric Unit	5.9	7.2	7.1	8.1	8.4	N/A	**8.3**	**N/A**
Other NH Hospitals	0.5	0.7	1.1	1.2	1.0	N/A	**1.1**	**N/A**

[1] Includes individuals on pre-placement visits.
[2] Springfield Hospital recently became a Critical Access Hospital, limiting the size of its psychiatric unit to 10 beds.

VDH provided a data set of patients receiving care at VSH from 2000 – 2005. We identified adult mental health inpatient services in the Vermont and New Hampshire Public Use Discharge Database by identifying admissions with a DRG in the range of 424 – 432 provided to a Vermont resident age 18 and over.

We established the average daily census from 2003 – 2005 as the base utilization for our projection of future adult mental health inpatient services.

Allocation of Use by Level of Care

VDH has identified three levels of mental health inpatient care it will provide under the Futures Plan:

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- **General Psychiatric Units** – includes voluntary treatment for psychiatric illness as well as Designated Hospital (DH) units that have expanded their role to provide involuntary care by enhancing security of their units.

- **Specialized Inpatient Unit (SIP Unit)** – the current level of care provided by VSH. Patients share the following characteristics:
  - Almost exclusively admitted on an involuntary basis,
  - Treatment refractory illness and/or may refuse medication and other forms of treatment,
  - Likely have a diagnosis of schizophrenia or other psychotic disorder, and
  - Have, on average, lengths of stay greater than 30 days.

  Characteristics of a SIP unit include higher RN to patient ratios, psychiatrically trained direct care staff, psychiatrists with special expertise, and easy access to general medical care. The physical characteristics of a SIP unit must be optimized for safety.

- **Intensive Care Unit (ICU)** – an ICU is a more enhanced version of a SIP unit, providing acute, stabilizing care and allowing for maximum containment of patients most at risk of violence to self and others. This level of care does not currently exist at VSH. Currently, patients needing an ICU level of care are managed at VSH with increased staffing and are more likely to require emergency involuntary interventions.

  The main distinguishing features of the ICU would be size, configuration of physical space, monitoring capability, increased staffing ratios, and more experienced staff.

We estimated the portion of the historical adult mental health inpatient utilization falling into each of the three levels of care identified in the Futures Plan. Our methodology is described below:

- **ICU** – We first identified days of care that would likely be provided in the ICU level of care. It is very difficult to obtain a precise count of ICU days using historical discharge and utilization data. We examined several methodologies, including targeting certain diagnoses, before arriving at using the occurrence of emergency involuntary interventions as a proxy for an ICU level of care.

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Using data provided by VDH, we identified occurrences of emergency involuntary medication, restraint, and seclusion. We estimated that the ICU level of care would be required for a five-day window around the involuntary intervention. We discussed our assumptions with Beth Tanzman and John Pandiani at VDH and they agreed our assumption is a reasonable approximation of expected ICU use.

- **SIP Unit** – We assumed any patient with a length of stay of 60 or more days required the SIP unit level of care. VDH confirmed this as the target population for SIP unit care.

- **General Psychiatric Unit** – Any day of care not meeting the ICU or SIP unit criteria was assumed to be provided at the General Psychiatric Unit level of care.

Our analysis of the VSH data and non-VSH data showed the following distribution of days by level of care:

Table II-3
State of Vermont, Department of Health
Summary of Distribution of Days by Level of Care
Adult Mental Health Inpatient Services

Level of Care	VSH	Fletcher Allen	Rutland Regional	Central Vermont	Springfield	Other
ICU	9.0%	1.8%	3.2%	3.4%	0.1%	0.0%
SIP Unit	82.1%	4.3%	5.0%	3.1%	2.3%	3.7%
General	8.9%	93.9%	91.8%	93.5%	97.6%	96.3%

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Average Length of Stay

We summarized the average length of stay for each hospital and year for adult mental health inpatient services. Table II-4 shows a summary of length of stay for 2000 – 2005.

Table II-4
State of Vermont, Department of Health
Summary of Average Length of Stay by Hospital and Year
Adult Mental Health Inpatient Services

Hospital	2000	2001	2002	2003	2004	2005
Vermont Hospitals						
Vermont State Hospital	69.95	64.68	74.99	71.53	68.12	76.10
Brattleboro Retreat	15.35	12.81	10.34	10.30	N/A	N/A
Central Vermont Hospital	6.65	6.99	7.44	7.51	7.62	N/A
Fletcher Allen Health Care	10.27	10.69	10.02	10.05	7.78	N/A
Rutland Regional Medical Center	5.42	6.85	6.95	5.89	5.02	N/A
Springfield Hospital	7.71	7.81	6.97	8.08	8.70	N/A
Veterans Administration	6.72	8.54	7.62	9.30	7.99	N/A
Other Vermont Hospitals	5.72	3.60	3.72	3.64	3.77	N/A
New Hampshire Hospitals (Vermont Residents Only)						
M.H. Psychiatric Unit	5.74	7.52	7.50	7.18	7.11	N/A
Other New Hampshire Hospitals	4.95	4.32	6.96	6.90	5.60	N/A

VSH has a much longer length of stay than other Vermont hospitals, reinforcing its role as the provider of services to Vermont residents with the most severe mental illnesses. In general, Brattleboro Retreat and Fletcher Allen Health Care have longer lengths of stay than the other non-VSH hospitals, though Fletcher Allen's length of stay dropped over two days from 2003 to 2004, to be similar to the other non-VSH hospitals.

Distribution of Admissions to VSH by Length of Stay

We also summarized VSH admissions from 2000 – 2005 by length of stay to investigate the length of stay pattern. Table II-5 shows that while a quarter of all admissions last one week or less, about 10% of admissions last for more than six months. If VDH can provide alternate levels of care that satisfy the needs of VSH's long term patients and/or reduce the length of stay of other VSH patients, overall inpatient capacity can be reduced.

Table II-5
State of Vermont, Department of Health
Distribution of Length of Stay at the Vermont State Hospital
All Patient Days 2000 – 2005

Length of Stay at VSH	Number of Admissions	Percent of Admits	Cumulative Percent of Admits
0-1 week	345	25.6%	25.6%
1-2 weeks	181	13.4%	39.0%
2-3 weeks	108	8.0%	47.0%
3-4 weeks	79	5.9%	52.8%
4-5 weeks	64	4.7%	57.6%
5-6 weeks	52	3.9%	61.4%
6-7 weeks	47	3.5%	64.9%
7-8 weeks	30	2.2%	67.1%
8-9 weeks	31	2.3%	69.4%
9-10 weeks	30	2.2%	71.6%
10-11 weeks	22	1.6%	73.3%
11-12 weeks	31	2.3%	75.6%
3-4 months	87	6.4%	82.0%
4-5 months	53	3.9%	85.9%
5-6 months	50	3.7%	89.6%
6-7 months	26	1.9%	91.6%
7-8 months	15	1.1%	92.7%
8-9 months	12	0.9%	93.6%
9-10 months	14	1.0%	94.6%
10-11 months	7	0.5%	95.1%
11-12 months	9	0.7%	95.8%
1-1.5 years	22	1.6%	97.4%
1.5-2 years	12	0.9%	98.3%
2-2.5 years	6	0.4%	98.7%
2.5-3 years	5	0.4%	99.1%
3-3.5 years	3	0.2%	99.3%
3.5-4 years	1	0.1%	99.4%
4+ years	8	0.6%	100.0%

Hospital Payer Mix

We examined what payers reimbursed each facility for adult mental health inpatient services. We found that government payers (Medicare, Medicaid, and State General Fund at VSH) dominated the payer mix for all facilities. The payer mix emphasizes that the financial viability of inpatient mental health programs are highly dependent on reimbursement from public sources.

Table II-6
State of Vermont, Department of Health
Payer Mix by Hospital
Percentage of Inpatient Days 2000 – 2005

Payer	Vermont State Hospital[1]	Other Vermont Hospitals	New Hampshire Hospitals
Medicare	29%	33%	40%
Medicaid	4%	28%	22%
State General Fund	64%	0%	0%
Commercial Insurance	1%	19%	32%
Self Pay	0%	4%	6%
Free Care	0%	2%	0%
Other	2%	14%	0%

[1] Payer mix opportunity is impacted by Medicaid waivers and limited by decertification.

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III. DETAILED EXAMINATION OF MENTAL HEALTH USAGE OF THE VERMONT CORRECTIONS POPULATION

Individuals who are incarcerated in Vermont corrections facilities (i.e., the Corrections population) are an important subset of the users of adult inpatient mental health services in Vermont. Various Vermont stakeholders have identified the Corrections population as an area of concern when assessing the proposed inpatient bed capacity in the Futures Plan.

An actuarial analysis alone cannot determine if there is currently an unmet need for mental health inpatient services in the corrections population. However, our analysis concludes:

- Vermont's Corrections population has a higher level of mental health treatment than all but a few states, and
- The current level of mental health inpatient services delivered to the Corrections population appears to be appropriate.

We confirmed that current usage of VSH and other hospitals by the Corrections population is in the data we analyzed.

Informational Interviews

Milliman and TMG conducted an informational interview with the following individuals to discuss the current delivery system for mental health services for the Corrections population:

- Dr. Susan Wehry, Clinical Director of the Vermont Department of Corrections
- John Perry, Director of Planning for the Vermont Department of Corrections
- Beth Tanzman, Vermont Department of Health
- John Pandiani, Vermont Department of Health

From this informational interview, we understand the current situation is:

- The Corrections population has an average daily census of about 1,650 inmates in nine Vermont facilities, with an additional 400 inmates incarcerated out of state. Vermont does not send inmates with serious mental health issues to out of state facilities.

- About 630 inmates are currently listed as receiving some type of mental health services, ranging from outpatient counseling to inpatient admissions at VSH. About 83 inmates have been identified as having a serious mental illness.

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- The Department of Corrections has the following units dedicated to inmates with severe mental illness in need of intermediate and/or secure care:

  - A 32-bed specialty mental health unit is housed at the Southern State Correctional Facility in Springfield, VT. It is being operated as a residential treatment facility that provides an intermediate level of care using a community treatment model. It has been open for two years, but there is some debate about how well it is being utilized. The Department of Corrections hopes that this unit will reduce the need for inpatient hospital services. A new contractor took over the operation of the unit as of February 15, 2006.

  - There are a total of three units in two facilities that are special housing units for vulnerable populations (i.e., inmates with mental illness, developmental disabilities, etc.).

- The Agency of Human Services Department of Corrections Comprehensive Mental Health Services Plan has not been fully funded, so there may be a shortage of providers for outpatient treatment such as crisis intervention.

- Advocates believe that some inmates at the residential facility may be better served in an inpatient hospital setting or the residential facility may need to provide more complex treatments. Currently, advocates have identified four inmates they believe could be better served in an inpatient hospital setting.

- Corrections believes that, at any one time, two to four inmates are hospitalized at VSH or a designated hospital.

- A significant driver of Corrections population admissions to VSH relate to a need for involuntary medication under Act 114.

- About 80% of the Corrections population that has a mental illness also has substance abuse issues.

- VDH increased the needed ICU beds in the Futures Plan from 8 ICU beds to 12 ICU beds to facilitate inpatient mental health services for inmates who require prison guard accompaniment.

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Vermont Data Analysis

It was clear from our informational interview that it was difficult for both VDH and the Vermont Department of Corrections to calculate the exact number of admissions from Corrections to VSH and the designated hospitals. It is also clear that:

- The VDH data for VSH **includes** all admissions for the Corrections population,
- The Vermont Hospital Discharge Data Public Use File distributed by VDH **includes** all admissions for the Corrections population, and
- Therefore, the current level of inpatient hospital usage by the Corrections population is **included** in the data we analyzed and used as the basis for our actuarial study.

VDH was able to provide a file with information about each VSH admission from Corrections and/or discharge from VSH to Corrections in 2004 and 2005. In total, the VDH data showed 51 patients spent a total of 2,932 days in VSH during 2004 and 62 patients spent a total of 3,347 days in VSH during 2005. These patient days indicate an average daily census of Corrections population inmates at VSH during 2004 – 2005 of eight to nine beds.

The average daily census of eight to nine Corrections inmates in the 2004 – 2005 VDH data is much higher than the average daily census of two to four we noted in the information interview discussed above. We believe that the daily census of eight to nine inmates from the VDH data may include individuals not normally thought of as transfers from the Corrections population.

We identified the following subsets of the Corrections population included in the 2004 – 2005 VDH data:

- Corrections transfers – those inmates who were admitted from Corrections and discharged to Corrections. This is the population that the Department of Corrections likely is thinking of when it says that an average of two to four inmates are hospitalized at VSH at any one time. The average daily census for this population was 3.2 in 2004 and 3.0 in 2005.
- Patients still at VSH – those inmates who were admitted from Corrections but have not been discharged as of mid-May 2006.

- Other patients – VSH patients who were either (1) admitted from Corrections and then discharged to another destination, or (2) admitted from a non-Corrections source and then discharged to Corrections. It is possible this "other" population includes admissions such as forensic evaluations.

A summary of utilization is presented in Table III-1 for each of these populations from the 2004 – 2005 VDH Corrections data and compared to the total VSH patient population:

Table III-1
State of Vermont, Department of Health
Summary of Corrections Population Mental Health Inpatient Services
Based on 2004 – 2005 VDH Corrections Data and VSH Data

Patient Population	2004			2005		
	Patients	Days	Avg. Census	Patients	Days	Avg. Census
Reported Data						
Corrections Transfers	20	1,160	3.2	22	1,082	3.0
Patients Still at VSH (as of May 2006)	2	271	0.7	3	948	2.6
Others Included in VDH Corrections Data	29	1,501	4.1	37	1,317	3.6
Total Included in VDH Corrections Data	51	2,932	8.0	62	3,347	9.2
Total VSH Population		18,870	51.6		18,645	51.1
As A Percent of the Total Vermont State Hospital Population						
Corrections Transfers		6.1%			5.8%	
Patients Still at VSH		1.4			5.1	
Others Included in VDH Corrections Data		8.0			7.1	
Total Included in VDH Corrections Data		15.5%			18.0%	
Total VSH Population		100.0%			100.0%	

Comparison to National Data

While comparative inpatient mental health data for the Corrections population is quite scarce, we did locate a Bureau of Justice Statistics Special Report titled, "Mental Health Treatment in State Prisons, 2000" released in July of 2001 that was cited several times as a definitive study on the topic.

The full text of the Bureau of Justice Statistics report can be found at:

http://www.ojp.usdoj.gov/bjs/abstract/mhtsp00.htm
The Bureau of Justice Statistics report found that:

- About 16% of the incarcerated population in 2000 was identified as mentally ill.
- About 13% of inmates were receiving mental health therapy or counseling services on a regular basis.
- Nearly 10% were receiving psychotropic medications.
- About 1.6% of inmates were receiving 24-hour mental health care in special housing or a psychiatric unit.

Table III-2 presents comparative state and regional information from the Bureau of Statistics report:

Table III-2
Inmates Receiving Mental Health Treatment in State Correctional Facilities
June 30, 2000

State / Region	24-hour Care		Therapy/Counseling		Psychotropic Medication	
	Number	Percent	Number	Percent	Number	Percent
Vermont	30	3.0%	350	34.9%	284	28.3%
Maine	26	2.8	538	33.0	367	23.5
New Hampshire	92	4.9	387	20.7	228	12.2
Iowa	134	1.5	1,293	14.3	1,122	12.4
Northeast	1,715	1.0	20,099	12.6	14,840	9.2
Midwest	3,843	1.7	32,461	14.3	21,527	9.3
South	7,106	1.6	54,119	11.9	41,280	9.1
West	4,690	1.9	30,706	13.5	27,689	11.3
Nationwide	17,354	1.6	137,385	12.8	105,336	9.7

Based on Appendix Table B of Bureau of Justice Statistics Special Report "Mental Health Treatment in State Prisons, 2000"

Vermont reported in our informational interview that 630 out of 1,650 total in-state inmates, or 38%, are identified as receiving some type of mental health service while incarcerated. This is generally consistent with 2000 findings of the Bureau of Justice Statistics report for Vermont.

The VDH Corrections population data identified an average daily census of 8.6 patients at VSH from 2004 – 2005, or 0.5% of the total in-state inmate population of 1,650 inmates. The average census at the 32-bed mental health unit would be added to this value to be equivalent to the 24-hour care value in the Bureau of Justice Statistics report. If the 32-bed facility averaged 90% occupancy then the average census would be 37.4 or 2.3%, consistent with the June 30, 2000 value.
Vermont clearly has a higher rate of mental health treatment in its Corrections population compared to most other states:

- Vermont's percent of inmates receiving 24-hour care (3.0%) is lower than only five other states (New Hampshire, Wisconsin, Georgia, Mississippi, and Hawaii).

- Vermont's percent of inmates receiving therapy / counseling services (34.9%) is second only to Wyoming (37.3%).

- Vermont's percent of inmates receiving psychotropic medication (28.3%) is second only to North Dakota (39.3%).

Vermont's high rate of mental health treatment could lead to a conclusion that Vermont is a leader in the treatment of mental illness for its Corrections population and that a significant shortage of care, at least compared to other states, does not exist. VDH should consider a more in-depth review of this issue to account for local differences and potential changes since 2000.

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IV. COMPARATIVE NATIONAL INPATIENT MENTAL HEALTH USAGE DATA

This section of our report provides some national context to the actuarial projections we have developed. We discuss the underlying prevalence of mental illness, ongoing changes to the mental health delivery system, and provide several comparisons of Vermont to other selected states.

Underlying Prevalence of Mental Illness

A literature search found that 20% to 30% of the US population has some sort of mental disorder, with a majority of the diagnosed population going without treatment. In the past ten years, the prevalence rate for mental disorders has remained flat, but the treatment rate has increased substantially.

While Vermont is a national leader in the provision of community mental health services, increases in community capacity may be needed to keep up with the need and demand for care.

We found two sources of prevalence rates of mental illness in the US population.

- *"Mental Health: A Report of the Surgeon General"*, published in 1999 by the National Institute of Mental Health.

  The Surgeon General's report estimated about 20% of Americans have a mental disorder in any one year and 15% of the adult population uses some form of mental health services in any one year. The report quotes the results of two epidemiological surveys: the Epidemiologic Catchment Area (ECA) study of the early 1980s and the National Comorbidity Survey (NCS) of the early 1990s.

  The report also finds that while 28% of the adult population has a mental/addictive disorder (note that mental and substance abuse disorder prevalence is combined in this portion of the report) in any one year and 15% of the adult population receives mental health services in any one year, only 8% of the adult population both has a mental/addictive disorder and receives mental health services. That means that 20% of the adult population is diagnosed with a mental/addictive disorder but is not receiving treatment. The report's findings also indicate 7% of the 15% of the adult population receiving mental health services have not been diagnosed with a mental/addictive disorder. The report concludes that the majority of those with a diagnosable mental disorder are not receiving treatment.

The report also estimates that as many as 50% of people with serious mental illnesses develop alcohol or other drug abuse problems at some point in their lives.

- A study titled "*Prevalence and Treatment of Mental Disorders, 1990 to 2003"* by Ronald C. Kessler et al, published in the June 16, 2005 edition of the New England Journal of Medicine.

  The Kessler study examined trends in the prevalence and rate of treatment of mental disorders among people 18 to 54 years of age between 1990 – 1992 and 2001 – 2003. The study's major findings include:

  - The prevalence of all mental disorders did not statistically change during the decade (29.4% to 30.5%),
  - The prevalence rate of mental disorders by severity also did not significantly change during the decade,
    - Serious disorders, 5.3% to 6.3%
    - Moderate disorders, 12.3% to 13.5%
    - Mild disorders, 11.8% to 10.8%
  - The rate of treatment of mental disorders increased significantly from 20.3% to 32.9% of the population with mental disorders,
    - Increases in treatment were linked to marketing of psychotropic drugs; development of new community programs; expansion of primary care, managed care, and behavioral carve-out programs; new legislation; and the expansion of insurance coverage.
    - Increases in treatment were largest in the sector of general medical services (this likely includes the impact of psychotropic drugs).
  - Despite an increase in the rate of treatment, most patients with a mental disorder did not receive treatment.

Mental Health Delivery System Changes

The mental health delivery system is a multifaceted system of care delivered by medical care providers, mental health specialty providers, and a network of community service providers and social supports. The mental health delivery system is funded through a web of payments from Medicaid, Medicare, commercial insurance, and other government funding.

States and communities are steadily shifting from a delivery system focused on inpatient mental health services to a system emphasizing community-based service alternatives.

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The National Association of State Mental Health Program Directors (NASMHPD) Research Institute (NRI) released its FY2003 Revenue and Expenditure Study in November 2005. The NRI Study shows the allocation of total state mental health agency expenditures in the US has changed dramatically over the past ten years:

- 1993
  - 48% of expenditures allocated to state psychiatric hospital inpatient services
  - 49% of expenditures allocated to community-based services
- 2003
  - 29% of expenditures allocated to state psychiatric hospital inpatient services
  - 69% of expenditures allocated to community-based services

Vermont is a leader in providing mental health services to its population. It is ranked fourth in the country in FY 2003 per capita expenditures for all mental health services and fourth in the country in FY 2003 per capita expenditures for community-based services.

As states continue to shift care from the hospital inpatient setting to community-based services, many stakeholders worry about shortages in mental health inpatient beds as a result of decreased inpatient capacity. NRI issued a study of state psychiatric hospitals in the September 2, 2005 issue of State Profile Highlights. The study's findings include:

- Hospital closings continue, but at a slower pace than in the 1990s.
- Nearly half of the states are reorganizing their state psychiatric hospital systems.
- 74% of the states (35) report experiencing shortages in psychiatric beds as a result of hospital downsizing and the closure of general hospital psychiatric beds and private psychiatric hospitals.
- States describe having to undertake a variety of initiatives to address inpatient bed shortages, including increasing funding to community providers to provide inpatient and crisis services, increasing assertive community treatment programs, and developing or supporting alternative treatment to reduce the need for hospitalization.
- 77% of states have community-based programs perform a gate-keeping function for entry to state psychiatric hospitals.

Comparable States to Vermont

We examined demographic information to determine states that are most comparable to Vermont. Vermont stakeholders expressed a desire to be compared to rural states with a large white population. Table IV-1 compares demographic statistics of the states we selected to use as comparisons for Vermont:

- Maine and New Hampshire were selected because of geography (northern New England) and racial makeup, with Maine being much more similar to Vermont in terms of population density and median income than is New Hampshire.

- Iowa was selected because its population density, racial makeup, uninsured percentage, poverty percentage, and median income all compared well to Vermont.

- Dane County, Wisconsin was selected because it recently went through an expansion of its mental health community-based services system to move patients from an inpatient setting to more expansive community services.

Table IV-1
Demographic Statistics of Vermont Comparison States

State	2004 Population[1]	Persons per Square Mile[1]	Percent of Population that is White[1]	Uninsured Percentage[2]	Poverty Percentage[2]	Median Income[2]
Vermont	621,394	65.8	96.8%	10.5%	8.8%	$45,473
Maine	1,317,253	41.3	96.9	10.6	12.2	39,395
New Hampshire	1,299,500	137.8	96.0	10.6	5.7	57,352
Iowa	2,954,451	52.4	93.9	10.1	9.7	43,042
Dane County, WI	453,582	354.9	89.0	8.1 [3]	9.4 [3]	36,455 [3]
US Average	293,655,404	79.6	75.1	15.5	12.4	44,473

[1] From US Census Bureau QuickFacts Report from each comparison state.
[2] From US Census Bureau report, "Income, Poverty, and Health Insurance Coverage in the United States: 2004" issued August 2005. Quoted statistics represent the 2002 – 2004 3-year average statistics.
[3] Uninsured percentage for Dane County from US Census Bureau "Experimental Small Area Health Insurance Estimates by County, 2000" Poverty percentage (2000) and per capita income (2003) from a report prepared by the Demographic Service Center, Wisconsin Department of Administration.

Comparison Data

We have developed several valuable comparisons of Vermont's mental health utilization and expenditures to other states.

The NRI FY 2003 Revenue and Expenditure Study includes information regarding each state's per capita expenditures for state psychiatric hospitals, community-based services, and state mental health support activities. Table IV-2 provides a summary of Vermont expenditures compared to selected states.

Table IV-2
State Mental Health Agency Per Capita Expenditures by Type of Service
FY 2003
Based on the FY 2003 Revenue and Expenditures Study Results -- National Association of State Mental Health Program Directors Research Institute
Results Include All Ages

State	State Mental Health Hospital Inpatient	%	Community Programs Inpatient	%	Other 24 hour Services	%	Less than 24 Hour Services	%	Other Services	%	Research, Training, and Admin	%	SMHA Total	National Rank
Vermont	$19.87	13.0%	$6.46	4.2%	$22.46	14.7%	$99.36	65.2%	-	0.0%	$4.20	2.8%	$152.35	4
Maine	39.57	30.9%	0.46	0.4%	11.37	8.9%	73.99	57.8%	-	0.0%	2.54	2.0%	127.92	7
New Hampshire	35.32	30.2%	1.69	1.4%	20.97	17.9%	48.32	41.2%	$7.61	6.5%	3.22	2.7%	117.14	13
Iowa	9.85	13.4%	0.80	1.1%	13.85	18.8%	-	0.0%	47.69	64.7%	1.51	2.1%	73.70	27
US Median	27.59	36.7%	4.01	5.3%	8.30	11.0%	32.70	43.5%	-	0.0%	1.63	2.2%	75.22	

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Table IV-2 shows that in FY 2003 Vermont has:

- Much lower hospital inpatient costs on a per capita and percentage of expenditure basis compared to the other selected states except for Iowa.
- Higher non-inpatient costs on a per capita and percentage of expenditure basis compared to the other selected states.

From the data, one can hypothesize Vermont has a more robust community-based mental health system and is farther along in its transition from inpatient care to community-based care than the other states.

The NRI FY 2003 Revenue and Expenditure Study also includes the number of patient days provided by each state's psychiatric hospital. Table IV-3 provides a comparison of psychiatric hospital utilization by state. Maine and Iowa did not report patient days, so we included several other states as a comparison.

The data in the report includes patient days for all ages. We estimated adult patient days using expenditure information by age found in the study to provide a more consistent comparison among states. Note the Vermont patient days reported in the study are lower than the patient days reported in the Vermont State Hospital data provided by VDH. We included both totals to be complete.

Table IV-3 shows Vermont has a much lower inpatient utilization rate in VSH (about 40 days per 1,000 adults) compared to other state psychiatric hospitals (61 to 86 days per 1,000 adults). Vermont's low utilization rate reinforces the hypothesis that Vermont has a more robust community-based mental health system and is farther along in its transition from inpatient care to community-based care than the other states.

Table IV-3
State Mental Health Agency Mental Health Services
All Patients in State Psychiatric Hospital
Based on the FY 2003 Revenue and Expenditures Study Results
National Association of State Mental Health Program Directors Research Institute (NRI)

State	FY 2003 Total Patient Days	Adult Percent of Total Expenditures	Estimated FY 2003 Adult Patient Days	CY 2004 Age 18+ Estimated Population	Estimated Inpatient Days per 1,000 Adults
Vermont [1]	17,065	100%	17,065	471,017	36.2
Vermont [2]	19,155	100%	19,155	471,017	40.7
Maine	N/A	N/A	N/A	N/A	N/A
New Hampshire	63,539	93%	59,091	974,625	60.6
Iowa	N/A	N/A	N/A	N/A	N/A
Connecticut	226,924	100%	226,924	2,638,214	86.0
Massachusetts	363,736	87%	316,450	4,902,210	64.6
North Dakota	39,562	93%	36,793	475,775	77.3
South Dakota	94,069	43%	40,450	564,286	71.7
Wyoming	36,450	86%	31,347	374,325	83.7

[1] FY 2003 total patient days as reported in the NRI study.
[2] Estimated FY 2003 total patient days based on Vermont State Hospital data provided by VDH.

Dane County, Wisconsin recently went through an expansion of its community based mental health service system similar to what Vermont is contemplating under the Futures Plan. During the years 2000 through 2005 Dane County increased service capacity in hospital diversion services by focusing on the expansion of alternative settings. The number of crisis beds/crisis homes, adult family homes, and addition of one staffed recovery house apartment as well as an increase in the use of crisis outreach workers has provided an effective diversion from the hospital or created a stabilized situation. This increase was achieved through Crisis Stabilization Medicaid billing.

In addition, the Community Support Program (ACT models) slots were increased. This opportunity came about from the addition of State matching funds to supplement the federal portion of the Medicaid billing for those services. The addition of funding for an additional 25 clients to receive CSP services created an intensive supportive case management system for consumers who would otherwise be at risk of hospitalization or involvement in corrections. The additional interventions related to both the expanded crisis stabilization services and the community support program services created an environment that resulted in the reduction of stays in an inpatient setting within the Dane County system.

Tables IV-4 through IV-6 provides summaries of historical adult mental health utilization in Dane County compared to Vermont.

- Dane County information was taken from the Wisconsin inpatient discharge data sets from 2000 through the third quarter of 2005. We summarized inpatient utilization for Dane County residents age 18 and over receiving care at two Wisconsin State Mental Health Institutes (Mendota and Winnebago) and other Wisconsin hospitals (defined as DRGs 424-432). We needed to estimate utilization for the fourth quarter of 2005.

- Vermont information was taken from the 2000 – 2005 Vermont State Hospital data provided by VDH, the 2000 – 2004 Vermont and New Hampshire inpatient discharge data sets for adults age 18 and over, and Brattleboro Retreat data as summarized by VDH. The data Vermont data summaries are consistent with the rest of our actuarial study. We needed to estimate 2005 utilization for all facilities except VSH.

Table IV-4 provides the average daily census by year for state mental health hospitals and other hospitals. Table IV-4 is not adjusted for the population differences between Vermont and Dane County (Table IV-6 adjusts for these differences).

- Dane County generally shows a lower average daily census than Vermont, both for state mental health hospitals and other hospitals.

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- Dane County's average daily census in state mental health hospitals averages 42 patients from 2000 – 2003 and decreases sharply in 2004. This period represented a time of expansion in hospital diversion resources through the increase in crisis alternatives and the expansion of Community Support Program availability (ACT model) within the Dane County system. The average daily census for 2004 and 2005 is 24, a 43% decrease from 2000 – 2003 levels.

Table IV-4
Comparison of Mental Health Inpatient Services in Dane County, WI and Vermont
Average Daily Census

	2000	2001	2002	2003	2004	2005 (est)
Dane County, WI						
State Mental Health Hospitals	26.4	41.6	60.3	41.0	22.9	25.1
Other WI Hospitals	36.2	33.8	33.1	30.7	29.6	30.6
Total	62.6	75.4	93.4	71.7	52.4	55.7
Vermont						
Vermont State Hospital	50.2	53.2	55.9	51.3	51.7	51.1
Other Vermont Hospitals	84.4	92.6	91.2	96.6	93.6	94.9
Total	134.6	145.8	147.1	147.9	145.3	146.0

Table IV-5 provides the average length of stay (ALOS) for admissions to state mental health hospitals and other hospitals.

- Dane County ALOS for state mental hospital admissions was higher than VSH ALOS from 2000 – 2003.

- Dane County ALOS for state mental health hospital admissions shows a clear decrease starting in 2004 and continuing in 2005, dropping to about 41 days per admission. Dane County's expanded community system took effect in 2004.

- Total ALOS in Dane County continues to be higher than total ALOS in Vermont.

Table IV-5
Comparison of Mental Health Inpatient Services in Dane County, WI and Vermont
Average Length of Stay

	2000	2001	2002	2003	2004	2005 (est)
Dane County, WI						
State Mental Health Hospitals	55.21	69.82	88.64	78.20	40.43	41.73
Other WI Hospitals	8.94	8.00	7.31	7.36	7.06	6.98
Total	13.82	15.64	17.93	15.28	11.03	11.17
Vermont						
Vermont State Hospital	69.95	64.68	74.99	71.53	68.12	76.10
Other Vermont Hospitals	7.30	8.04	7.72	8.01	7.30	7.36
Total	10.96	11.81	11.71	11.58	10.69	10.76

Table IV-6 provides inpatient days per 1,000 adults for admissions to state mental health hospitals and other hospitals. Table IV-6 adjusts the patient days in each state based on the total population of adults age 18 and over. Therefore, the utilization rates are directly comparable.

- Dane County adult inpatient utilization in state mental health hospitals averaged about 46 days per 1,000 adults from 2000 – 2003. Vermont's adult inpatient utilization at VSH averaged about 41 days per 1,000 adults from 2000 – 2003.

- Dane County's adult inpatient utilization in state mental health hospitals dropped to about 25 days per 1,000 in 2004 – 2005 (after the expanded community system took effect).

- Dane County's adult inpatient utilization in other Wisconsin hospitals showed a steady decrease from 2000 to 2005. Vermont's non-VSH utilization was fairly steady over the same time period.

From the data, one can hypothesize Vermont has a reasonable opportunity to substantially reduce adult mental health inpatient services if it can effectively implement the reforms similar to those implemented in Dane County. A more in depth study could be done to test this hypothesis, including comparing Vermont's current system to Dane County's system in 2000 – 2003, the Futures Plan reforms compared to Dane County's expanded community-based mental health system, and other issues (such as involuntary service regulation) in each state. Such a study is beyond the scope of this report.

Table IV-6
Comparison of Mental Health Inpatient Services in Dane County, WI and Vermont
Inpatient Days per 1,000 Adults

	2000	2001	2002	2003	2004	2005 (est)
Dane County, WI						
State Mental Health Hospitals	29.1	45.2	64.5	43.3	23.7	25.8
Other WI Hospitals	40.0	36.7	35.4	32.4	30.6	31.5
Total	69.1	81.9	100.0	75.6	54.3	57.3
Vermont						
Vermont State Hospital	39.7	41.8	43.7	40.0	40.1	39.4
Other Vermont Hospitals	66.7	72.9	71.4	75.2	72.6	73.2
Total	106.5	114.7	115.2	115.2	112.6	112.6

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V. FOCUS GROUP COMMENTS ON VERMONT FUTURES PLAN

This section of our report discusses the comments provided during the Focus Groups conducted with Vermont stakeholders.

Results of Informational Interviews with Key Stakeholders

TMG consultants conducted focus groups with various provider and community representatives including consumer run service representatives. Officials at various levels of state government were also interviewed. The focus groups were organized around a common set of questions developed on the basis of information presented in the Futures Plan document as well as subsequent developments and updates to that plan as published on the State website. Additionally, VDH reviewed and commented on a first draft of questions. The final sets of questions are included in Appendix A.

The focus of the questions was to obtain information regarding the functioning of the current system, both as it serves those in need of an inpatient setting as well as the community based services throughout Vermont. The questions were framed to gather information regarding the impact on mental health inpatient capacity. Focus groups were held locally or through phone conferencing in late March to early April, 2006.

The following groups participated in these focus groups (with the number of participants listed in parentheses):

- Vermont Association of Hospitals and Health Systems (VAHHS) (7)
- Vermont State Hospital Staff (4)
- Vermont State Acute Care Team (3)
- Vermont Mental Health Designated Agency representatives – CRTs (4)
- Futures Advisory Committee (4)
- Vermont Department of Health (3)
- Vermont Psychiatric Survivors – Consumer-run Program (1)
- NAMI (1 representative joined with Futures Advisory Committee group)
- Department of Corrections (2)

These groups were selected through discussion between TMG and the Vermont Department of Health to be representative of the various stakeholders involved with the Futures Plan.

Focus Group Discussion

This summary of the comments provided by the Focus Groups is based on a detailed summary of the comments from the participating organization that was compiled by the TMG consultants. These discussions were documented using a standardized template during the site visits. And the notes were then transcribed, prior to summarizing for this report.

The Focus Group participants described the current mental health services as appropriate but short of sufficient resources to support the community-based system in order to maintain its effectiveness. They generally support the Futures Plan but expressed concern that successful implementation will be contingent on full funding of the community resource portion of the plan. In addition, there were mixed views regarding the State's ability to commit to that increased funding level over a sustained period of time.

The groups presented diverse perspectives based on the discipline they represented. For example:

- The VAHHS representatives and the Vermont State Hospital staff believed that the current levels of inpatient beds were either low or sufficient, and they had concerns regarding any planned reduction in bed capacity. In addition, they expressed concern that the sub-acute facilities would truly reduce the required inpatient beds in a more restrictive setting.

- The Vermont State Acute Care Team, on the other hand, believed that the reduction in inpatient beds was very achievable.

General themes:

- There is not currently enough funding to sustain the current level of community based services. The required services do not necessarily exist in the communities of need and those that do exist are not sufficiently staffed.

- Community-based services staff turnover is a large problem that stresses the system and ultimately impacts inpatient utilization. This view was specifically communicated by the CRT program representatives. They believe the current system needs to be further enhanced in order to avoid becoming a driver of increased inpatient stays.

- Existing consumers in need of a less restrictive setting will find the new sub acute facilities desirable since the stigma of going to VSH will be removed. There will be a desire by the medical and provider community to refer directly into these facilities rather than through VSH.

- If the implementation of Act 114 is not expanded beyond VSH so involuntary medications can be administered in settings other than VSH, it will not be possible for any planned change to occur.

- There is a core value in Vermont to minimize involuntary treatments. Participants noted that increased opportunities for involuntary interventions create a slippery slope that is disapproved of by most of the groups, although some believed this to be a critical, humane intervention that must be available outside the VSH.

- Reductions to inpatient capacity have been made in the past. There needs to be recognition that there is a critical minimum. There was concern that the floor may have already been reached and to reduce further the VSH level of care would possibly not match changes in population growth over the next ten years.

- Consumers are sometimes reluctant to change their environments. The attempt to move a group of consumers to a less restrictive setting was made once before in Vermont and most returned to VSH. Focus Group participants expressed concern that enough time be allowed to phase changes so the experience is not repeated. However, it was also noted that a state facility for the Developmentally Disabled was successfully downsized.

Other comments from the focus groups:

- The plan was not developed by the Vermont Futures Committee but by the State.

- Communities generally do not welcome sub-acute care facilities.

- There is a concern that, in addition to a newly constructed facility (ies), it is assumed that the Designated Hospitals can absorb required beds through planned changes to their current systems. This assumption should be accurate if the Hospitals can plan for both structural and staffing changes. The ability to create segregated areas with private rooms and increased staffing ratios on an as needed

basis is potentially unrealistic without infrastructure changes to create the new space. Staffing concerns for the intensity of the consumers were raised.

- Housing issues were raised – the need for affordable housing with appropriate supports. Housing supports are in addition to the need for family and community supports to aid in a successful downsizing.

The qualitative information provided by the Focus Groups was used in combination with quantitative information about Vermont inpatient mental health resources and usage to form opinions regarding how utilization may change in light of changes in resources included in the Futures Plan. This was done through sharing of information and continuing discussions between the TMG and Milliman teams. These projected changes were used to evaluate how utilization may change in light of the community resources assumed in each scenario.

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VI. FACTORS IMPACTING A PROJECTION OF THE USE OF MENTAL HEALTH INPATIENT SERVICES

This section of the report evaluates the various factors that impact the use of adult mental health inpatient services over the next ten years.

We examined the following factors to determine their expected impact on future inpatient mental health usage in Vermont:

- Changes in resources due to the implementation of the Futures Plan (Three Scenarios)
- Population growth and demographic changes in Vermont,
- Mental health inpatient utilization trends, and
- Changes to the Medicare payment methodology for inpatient mental health services.

We also note several clinical drivers and non-quantifiable influence that may affect future inpatient use.

Expected Impact of Futures Plan Implementation Scenarios

TMG was contracted to evaluate the programmatic components of the proposal to close the VSH and create replacement inpatient capacity within one or more designated hospitals and new community based residential programs. The assumption is that fewer inpatient beds will be required if residential programs are created based on evaluations of the severity of the consumers currently residing at the VSH. The evaluations indicated that as many as 15 consumers would be appropriate for, and would benefit from, the new planned residential facilities rather than a more restrictive environment such as VSH or another psychiatric inpatient setting.

Background for Evaluation of Scenarios

The current and increasing pressures on the community system must be resolved in order to relieve the inpatient hospital demands and impact inpatient utilization. The more robust the community system the more likely the Futures Plan, as currently written, can be achieved. The most significant services in diverting inpatient hospital stays are crisis stabilization and Community Rehabilitation and Treatment (CRT) services. Additional funding to expand crisis stabilization and CRT services is necessary in order to achieve the desired bed reductions and manage the increasing population over the next ten years.

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Over the next ten years the system, with the required financial supports, should have sufficient time to phase-in the desired changes as described in the Futures Plan. The target of 15 consumers identified for a sub-acute facility could be achieved through attrition as well as transition of existing consumers. The addition of crisis diversion beds, in particular, in communities that do not currently offer them, will require expanded funding to be achieved and is seen as a critical piece to the success of the Futures Plan. Funding for additional staff and a solution to the current staff retention problem must be achieved in order to impact the need for inpatient hospitalization. The Vermont community system appears to currently be at or beyond capacity.

As new or expanded services are offered, the demand for such services usually increases. In Dane County, Wisconsin, the community at large that refers consumers for services such as CRT services responded to new and expanded services quickly. This result was especially true when the services were created in communities that did not previously offer them. Once expanded funding for services is recognized, there is the potential for increased or acknowledged need by both the existing known consumer base as well as new, previously unidentified consumers. The need to fully assess consumers who are unknown to the system will slow down the process of saturation and should be acknowledged.

Evaluation Scenarios

Scenario 1 – Status Quo Continues

- No change to current adult mental health delivery system
- Projected bed capacity for adult mental health inpatient services is only influenced by:
  - Population growth and demographic changes in Vermont,
  - Mental health inpatient utilization trends
- The impact of new consumers previously unknown to the system will be minimal under this scenario since there is no change to the system. Since there is no change in resources the expectations of current and potential consumers are not likely to change.
- An implicit assumption is that community resources will grow at the rate of estimated utilization, so that the ratio of community to inpatient resources remains constant. If this assumption is not achieved, then there will be need for inpatient bed capacity in addition to the projections in this report.

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Scenario 2 – Partial Implementation

- Partial funding for the community based services (compared to the Futures Plan) will not cause an increase in inpatient utilization compared to the current delivery system.

  This partial funding (50% of that in the Futures Plan) assumes the following:

  - Three Secure Residential beds – relocated from VSH
  - Eight Sub-Acute beds – relocated from VSH
  - Five new Diversion beds
  - For convenience we have assumed 50% of each resource included in the Futures Plan. Some other combinations of the 22 Secure Residential/Sub-Acute beds would be equivalent.

- Failure to provide required funding for the expanded community services will cause higher inpatient utilization relative to full implementation of the Futures Plan. Population growth will increase the need for community based mental heath services. Since these service systems are already stretched and experiencing staffing issues funding for them will need to grow at least at the rate of population utilization and will need to correct the current staffing issues. The intensity of the consumer needs and the inability to provide the time to address those needs due to large caseloads and high turnover increases the risk of hospitalization.

- The possibility of unmet need within the community from consumers currently unknown to the system will impact the community based service system.

- If only part of the new or expanded community services is created then a smaller number of consumers will be able to be relocated from the inpatient setting than in the full implementation scenario.

The experience in Dane County, Wisconsin for a program change due to the movement of Medicaid fee for service dollars into a managed care system showed anticipation of services. Before the mental health benefit package was defined, consumers and their service providers were calling Dane County and making plans to have them relocate. The new consumers appeared without housing or other supports, to a service system that was not yet prepared to serve them. They were quickly at risk of hospitalization or involvement with corrections.

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The demand for community services in Vermont could increase significantly due to the expectation of increased resources from implementation of the Futures Plan. Thus if there is only partial implementation the community resources could be saturated. We assume that 10% to 20% of the new residential beds (one to two beds) will be used by individuals who would not have been treated at VSH. This phenomenon of "induced utilization" is discussed in Scenario 3.

Scenario 3 – Full Implementation – Induced Utilization is Likely

- If the Futures Plan is implemented as planned the inpatient beds in the Futures Plan will be the floor for required capacity. Some of the new community resources are likely to be used by individuals not presently served by the system ("induced utilization"). We estimate that 10% to 20% of the beds in the new sub acute facilities and diversion beds will be used by these "new" individuals, who will submit themselves to treatment at VSH in order to reach the new facilities. We do not expect any induced utilization for the new secure residential beds.

- Table VII-I (Section VII) summarizes how the new resources are assumed available to existing users in each scenario. In scenario 3, existing users are assumed to fill 12.8 to 14.4 of the 16 sub-acute beds, all of the secure residential beds and 8 to 9 of the 10 diversion beds. Individuals new to the system would fill 2.6 to 5.2 of the sub-acute and diversion beds.

- The potential for consumers previously unknown to the system or from outside the system ("induced utilization") will have a more immediate impact in this scenario as new and expanded services are recognized. In addition, the interest in the new sub-acute facilities was clearly articulated in the focus group discussions. An increase of inpatient stays could be experienced because it is seen as an entry point for the sub-acute facilities, even if this is only a perceived pathway.

- All aspects of health care are affected by induced utilization. Consumers have limited price elasticity due to a significant portion of the cost of health care being paid by third parties. State certificate of need laws are based on this concept, that new health care facilities, once built, will be used as the health care providers are able to create demand for them. Research by the Dartmouth Atlas Project has

shown that there is "a positive correlation between the supply of staffed hospital beds and the rate of hospitalization for conditions that do not require surgery." [Dartmouth Atlas Project Topic Brief, Supply-Sensitive Care, p.2. http://www.dartmouthatlas.org/topics/supply_sensitive.pdf]. This concept is also discussed in "The Quality of Medical Care in the United States: A Report on the Medicare Program, The Dartmouth Atlas of Health Care 1999".

The Center for Medicare and Medicaid Services (CMS) National Health Care Expenditures Projections include this concept. They note that real per capita disposable income is a "highly influential variable in our model of private health spending". There is a lag between the change in real per capita disposable income and the change in health care spending. They summarize its effect as "The implicit theory underlying this variable is that the income effect occurs indirectly in the form of changes to the institutions within which medical care is provided, rather than at the level of the individual consumer, and that the specific nature of this change cannot be predicted and, almost always, cannot be accurately predicted". While health care providers are not the only institution that CMS refers to, they are an important one. The implication is that increases in real per capita disposable income (economic prosperity) is a signal to health care providers that they can expand their facilities/services, which in turn are then used as the expansions come on line. [Projections of National Health Expenditures: Methodology and Model Specification (2/21/06), p. 7 and p. 8, http://www.cms.hhs.gov/ NationalHealth ExpendData/downloads /projections-methodology-2006.pdf]

- A full implementation of the Futures Plan, including the various community system supports, will create movement within the system and the desired changes over the course of the implementation period after all resources are in place. The current four to five year timeline would likely be sufficient to establish the sub-acute residential facilities and achieve the desired reduction in VSH beds through transition of current VSH consumers or through attrition.

In addition, the funding for new and expanded services to the community based system will not only create an increase in utilization, but could result in an influx of some consumers previously unknown to the system. The border areas of surrounding states have low populations – though the Albany New York MSA has total population that is larger than Vermont – and could result in new additions to the system. Increased capacity, both perceived and real, can result in a real increase in utilization. The mental health advocates, the mental health providers, and the natural support systems within the communities influence this effect. Any impact will be realized in the early phase of

implementation and will no longer be an identifiable driver to the number of required inpatient beds after the full ten-year implementation period of the Futures Plan.

Population Growth and Demographic Changes

We obtained Vermont population and demographic projections from VDH. The total Vermont population is expected to grow 4.2% from 2005 to 2015, from 625,975 to 652,199. The age 21 and over population is expected to grow 9.3%, from 463,761 to 506,942.

The expected growth of Vermont's adult mental health inpatient services is not only related to the growth in the number of adults in Vermont, it is also related to demographic shifts in the adult population.

Table VI-1 compares the expected adults hospitalized for behavioral health care between 2005 and 2015. The table includes adult population estimates and hospitalization rates by age group. Historical Vermont inpatient utilization rates are higher for younger adults and lower for older adults. As the Vermont adult population shifts into older age groups, expected utilization per adult decreases. The combined impact of population growth and demographic shifts results in a 4.6% increase over 10 years, or an annual increase of 0.45%.

We included a population growth adjustment of 4.6% from 2006 to 2016.

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Table VI-1
Calculation of Population Growth Adjustment

	(a)	(b)	(c) = (b) * (a) / 100,000
Age	2005 Estimated Vermont Population [1]	People Hospitalized for Behavioral Health Care in 2003 per 100,000 Population by Age [2]	Estimated Adults Hospitalized
21-35	110,680	753	833.4
36-50	145,775	813	1,185.2
51-65	124,909	495	618.3
66+	82,397	444	365.8
Total Adult	**463,761**		**3,002.7**
	(a)	(b)	(c) = (b) * (a) / 100,000
Age	2015 Estimated Vermont Population [1]	People Hospitalized for Behavioral Health Care in 2003 per 100,000 Population by Age [2]	Estimated Adults Hospitalized
21-35	132,430	753	997.2
36-50	109,368	813	889.2
51-65	151,246	495	748.7
66+	113,898	444	505.7
Total Adult	**506,942**		**3,140.7**
Increase in total adults hospitalized for behavioral health care (2005 - 2015)			1.0460
Annual increase in adults hospitalized for behavioral health care			1.0045

[1] From VDH population forecasts.
[2] Taken from Table A-2 of "Inpatient Behavioral Health Care Services Provided to Vermont Residents During 1990 - 2003" prepared by the Vermont Mental Health Performance Indicator Project.

Mental Health Utilization Trends

We assumed an additional 1% annual trend rate for inpatient mental health utilization that is not associated with population growth. This rate is consistent with overall inpatient utilization rates. This rate of increase assumes that the historical level of utilization is appropriate – meaning neither overutilization nor underutilization (for example, due to capacity limits on beds available for long term stays) currently exists. A utilization trend is consistent with research results showing increase in the rate of mental health treatment over the past 10 years (see Section IV for research discussion).

Changes to Medicare Payment Methodology

We reviewed the recent changes to Medicare's payment methodology for inpatient mental health services. Hospitals have historically been paid by Medicare for inpatient mental health services using a cost-based methodology. For reporting periods beginning on or after January 1, 2005, hospitals will be paid a variable per diem rate for each day a patient is an inpatient (subject to a three year phase-in period). Per diems will vary by:

- Age
- DRG
- Various patient characteristics
- Various facility characteristics

The variable per diem rate decreases as the length of stay increases, from a high of 131% of the average per diem on day one to a low of 92% of the average per diem on days 21 and greater. There is an outlier provision for large cases.

The methodology change is intended to be budget neutral to the Medicare program (i.e., total payments, before and after implementation are equal).

We do not expect a material impact to utilization rates due to this change in Medicare reimbursement. Both cost-based reimbursement and per diem reimbursement are volume-based reimbursement methodologies. Under volume-based reimbursement, additional patient days equal more reimbursement for the hospital. The basic incentive of more services equal more reimbursement remains the same (unlike DRG case rate reimbursement, which rewards a facility for shortening length of stay).

It is possible under the new Medicare payment methodology that the declining per diem as a stay increases could create an incentive for hospitals to reduce Medicare length of stay, which could create additional capacity in the system for non Medicare stays. However, it is also possible that declining Medicare lengths of stay are offset by readmissions of the same patient.

Our adjustment for the new Medicare payment methodology is 0.0%.

Clinical Drivers

There are several clinical drivers of inpatient medical health use that may or may not impact Vermont's needed bed capacity for adult mental health inpatient services over the next 10 years. Drivers may include:

- Mental health and substance abuse co-morbidity,
- Identification of mental health disorders in children impacting future adult utilization,
- Future introductions of cutting edge medications or treatments,
- Changes in the life expectancy of people with mental illness (i.e., people who need long-term hospital inpatient care living longer or shorter than they do currently),
- Other trends in disease prevalence, identification, and treatment.

The impact of the clinical drivers listed above is not typically calculated using actuarial techniques. Vermont may consider performing a study based on clinical and epidemiological techniques to estimate the potential impact of these factors. A study of this type is outside the scope of this actuarial study.

Other Non-Quantifiable Influences

Other factors may influence Vermont's needed bed capacity for adult mental health inpatient services over the next 10 years. These factors include:

- The legal and statutory framework for involuntary care.
- The level of funding appropriate to Vermont's community mental health system. If community services are not fully funded, reductions to hospital inpatient usage will not happen.
- Rates of health insurance coverage.
- Programs implemented under Vermont's new 1115 Medicaid waiver, Global Commitment. Global Commitment allows Vermont more flexibility to develop programs to increase access to Medicaid and uninsured Vermont residents. Detailed plans have not been released.

The impact of these factors on Vermont's inpatient mental health usage is not known at this time. Bed capacity targets should be updated to reflect changes to the underlying environment in Vermont. This actuarial study assumes no changes to these factors.

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Projections Beyond 2016

Projections of inpatient hospital use beyond 10 years are influenced by many of the same factors as the 10 year projections included in this report, such as:

- Population growth and demographic changes, and
- Utilization trends

Other factors that are less predictable and quantifiable may have a bigger impact:

- Delivery system changes,
- Breakthroughs in the treatment of mental illness,
- Attitudes toward mental illness,
- Treatment rates of people with mental illness,
- Mental health service funding levels,
- Changes in provider reimbursement methodology from government and/or private payers,
- Impact of potential healthcare reform initiatives,
- Advances in prescription drug therapies, and
- Other societal influences.

Projections beyond 10 years are subject to increased variability and error than shorter term projections.

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VII. PROJECTED 2016 ADULT MENTAL HEALTH INPATIENT BED CAPACITY NEEDS BY LEVEL OF CARE

We estimated the future needed inpatient bed capacity for adult mental health inpatient services using the following methodology:

- Determine the current adult mental health inpatient average daily census by proposed level of care (developed in Section II of this report),
- Apply estimated changes to adult mental health inpatient usage to determine the projected average daily census in 2016
  - Impact of health care and demographic trends (developed in Section VI of this report)
  - Impact of the delivery system changes outlined in the Futures Plan (developed in Section VI of this report) – the impact is expressed as the number of beds expected to be diverted to the new level of care
- Convert the projected 2016 adult mental health inpatient usage to a bed capacity that would be sufficient 90% of the time. We included the adjustment to reflect a bed capacity that would be sufficient 95% of the time as the footnote to Tables VII-2 through VII-4.

We start with actual Vermont utilization rather than specific actuarial benchmarks. It is a standard actuarial approach to begin with the experience of the population being studied, if available. The future experience of a large population (such as Vermont residents) is best predicted by starting with its prior experience and then adjusted for expected/assumed changes (as discussed in Section I). Any given population's experience may deviate from a benchmark for a myriad of reasons.

Table VII-1 summarizes how the new community resources in each scenario are allocated between current patients and patients new to the system.

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Table VII-1
State of Vermont, Department of Health
New Community Resources Availability
Beds Used by New Patients vs. Beds Available to Existing Patients

Scenario		Sub-Acute Facility	Secure Residential	Diversion Beds
Scenario 1	New Resources	0	0	0
	Patients New to System	0	0	0
	Resources Available to Patients Currently in System	0	0	0
Scenario 2	New Resources	8	3	5
	Patients New to System	0.8 to 1.6	0	0.5 to 1.0
	Resource Available to Patients currently Served by System	6.4 to 7.2	3	4 to 4.5
Scenario 3	New Resources	16	6	10
	Patients New to System	1.6 to 3.2	0	1 to 2
	Resources Available to Patients Currently Served by System	12.8 to 14.4	6	8 to 9

Tables VII-2, VII-3, and VII-4 below show the projection of adult mental health inpatient bed capacity for each of the three scenarios outlined in Section VI of this report, Status Quo, Partial Implementation, and Full Implementation. We assume that the capacity for the ICU and SIP Unit levels of care will be housed at the new inpatient facility or facilities as described in the Futures Plan. The capacity for the General level of care will continue to be provided by Vermont and New Hampshire hospitals. Note that 5 beds are added to capacity for the difference between the average estimated census and adequacy 90% of the time.

Table VII-2
State of Vermont, Department of Health
Projection of 2016 Adult Mental Health Inpatient Bed Capacity
Status Quo Scenario

Level of Care	Current Daily Census	Population Trend Impact	Utilization Trend Impact	Beds diverted to			Additional needed capacity [1]	Total beds
				Sub-acute Facility	Secure Residential	Diversion Beds		
ICU	5.6	0.3	0.6	(0.0)	(0.0)	(0.0)	0.6	7.1
SIP Unit	45.7	2.1	5.0	(0.0)	(0.0)	(0.0)	4.4	57.2
General	95.2	4.4	10.4	(0.0)	(0.0)	(0.0)	10.0	120.0

[1] *Additional needed capacity to reflect variation in average daily census. Additional beds are added so that the total capacity is adequate 90% of the time. This column should be increased by 19% to reflect 95% adequacy.*

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Under the Status Quo scenario, the new inpatient facility or facilities as described in the Futures Plan will need to have a capacity of 65 beds to meet the demand for adult mental health inpatient services (allowing for variation in the average daily census).

Table VII-3
State of Vermont, Department of Health
Projection of 2016 Adult Mental Health Inpatient Bed Capacity
Partial Implementation Scenario

Level of Care	Current Daily Census	Population Trend Impact	Utilization Trend Impact	Beds diverted to			Additional needed capacity [1]	Total beds
				Sub-acute Facility	Secure Residential	Diversion Beds		
ICU	5.6	0.3	0.6	(0.0)	(0.0)	(0.0)	0.6	7.1
SIP Unit	45.7	2.1	5.0	(6.8)	(3.0)	(2.1)	4.4	45.3
General	95.2	4.4	10.4	(0.0)	(0.0)	(2.2)	10.0	117.8

[1] Additional needed capacity to reflect variation in average daily census. Additional beds are added so that the total capacity is adequate 90% of the time. This column should be increased by 19% to reflect 95% adequacy.

Under the Partial Implementation scenario, the new inpatient facility or facilities as described in the Futures Plan will need to have a capacity of 53 beds to meet the demand for adult mental health inpatient services (allowing for variation in the average daily census).

Table VII-4
State of Vermont, Department of Health
Projection of 2016 Adult Mental Health Inpatient Bed Capacity
Full Implementation Scenario

Level of Care	Current Daily Census	Population Trend Impact	Utilization Trend Impact	Beds diverted to			Additional needed capacity [1]	Total beds
				Sub-acute Facility	Secure Residential	Diversion Beds		
ICU	5.6	0.3	0.6	(0.0)	(0.0)	(0.0)	0.6	7.1
SIP Unit	45.7	2.1	5.0	(13.6)	(6.0)	(4.2)	4.4	33.4
General	95.2	4.4	10.4	(0.0)	(0.0)	(4.3)	10.0	115.7

[1] Additional needed capacity to reflect variation in average daily census. Additional beds are added so that the total capacity is adequate 90% of the time. This column should be increased by 19% to reflect 95% adequacy.

Under the Full Implementation scenario, the new inpatient facility or facilities as described in the Futures Plan will need to have a capacity of 41 beds to meet the demand for adult mental health inpatient services (allowing for variation in the average daily census).

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Appendix A
Focus Group Questions

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Focus Groups Questions
TMG Site Visit
March, 2006

1. Future capacity has been briefly estimated within the Futures Plan. Milliman, the State's contracted actuary for this project, will be reviewing those assumptions and also analyzing detailed utilization data to assess the mental health system's long-run capacity needs. What is your general impression of the current estimates that have been developed? Are there specific areas that you believe could be better addressed? For example, will the 32 beds in the inpatient care system be sufficient? Do you feel the 12 ICU bed estimate is reasonable?

2. Please provide your impression of the strengths and weaknesses of the *current* community-based system, particularly in relation to the drivers of inpatient care:
    - Crisis alternatives for hospital diversion;
    - CRT program availability;
    - Collaboration with the justice system;
    - Availability of residential programs;
    - Array of services available to provide community-based services throughout Vermont, rural versus populated areas.

3. Do you believe the proposed expansion to the following services/supports are achievable and, if so, what impact, if any, will they have on inpatient hospitalization?

    - Crisis programs/Crisis beds
    - Transportation services
    - Peer supports
    - Supportive housing
    - Secure residential

4. Do you believe there is currently adequate capacity at the five Designated Hospital programs and at VSH?

5. The Futures Plan has proposed an increase in the number of diversion beds within the state. How do you believe this new capacity will influence recent inpatient utilization trends? What was the state's experience with the development of the current 19 diversion beds—did those directly impact hospital utilization?

6. Do you believe the beds planned for the community at the sub-acute level of care will be realized and will impact the use of inpatient beds?

7. Do you believe the State will be able to fund the components of the Futures Plan over the long term? Is the service system as it is currently operating sufficiently funded?

8. Will further development and refinement of the State's quality management system be able to directly impact inpatient utilization by better identifying and disseminating specific strategies that reduce hospitalizations?

9. A new care management system is proposed that standardizes admission and discharge criteria across inpatient, residential, and crisis programs. How do you think such a system will affect inpatient hospital utilization?

10. Are there specific resources that have not yet been identified through the Futures Planning process or in our discussion of the previous questions that may be able to significantly lower the need for inpatient capacity? Is it likely those resources may be made available?